



**CONESTOGA-ROVERS
& ASSOCIATES**

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June 27, 2011

Reference No. 058502

Mr. Nate Nemani
Project Manager
U.S. EPA, Region 5
Waste, Pesticide and Toxins Division
77 West Jackson Boulevard DW-8J
Chicago, Illinois
U.S.A. 60604-3590

Dear Mr. Nemani:

Re: Sampling and Analysis Plan and Fundamental Quality
Assurance Project Plan
Former Nodular Facility, Saginaw, MI

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), the following presents responses to United States Environmental Protection Agency (U.S. EPA) comments and questions received by email on June 7, 2011 regarding the "Proposal for Conducting Characterization Study of Former Nodular Iron Wastewater Ponds/Basins Nodular Facility, Saginaw, MI" submitted to U.S. EPA on June 2, 2011. For ease of review, the original comment is presented below in *bold italics*, followed by a response.

U.S. EPA Comment

- 1.) *It is not clear to me the rationale used for the number, locations and frequency of the sample collections for both the aqueous and sediment media. Do Task 1 and Task 2 correspond to items 1 and 2 on page 1?*

Response

The number of sample locations was chosen to provide representative coverage of the pond. The majority of the locations will be sampled once. The samples will be utilized to support a NPDES permit application as well as identify whether water and/or sediment treatment may be required. If treatment is required, sufficient data should be available to evaluate viable options. The three locations proposed for re-sampling were selected assuming that a stormwater discharge would likely be located in this area along the north side of the pond and that surface water quality could be verified with limited future sampling with the overall goal of having samples in the area of the proposed discharge representing seasonal variation. These samples may be used to support the NPDES permit application or monitoring requirement.



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Task 1 and Task 2 correspond to items 1 and 2 on page 1.

U.S. EPA Comment

- 2.) *From a characterization stand point, the rationale for including certain analytical groups and for excluding other analytical groups in the sampling program is not clear.*

Response

The proposed study will include sample analysis for surface water and sediment samples for target analyte list (TAL) metals, polychlorinated biphenyls (PCBs), pH, ammonia-, and nitrate. These parameters were selected based on previous sample results.

In addition, in order to support an NPDES permit application as well as allow for remedial alternatives evaluation, should that be necessary, samples will also be analyzed for total organic carbon (TOC), biochemical oxygen demand (BOD), chemical oxygen demand (COD), temperature, cyanide (total for sediment and amenable for water), formaldehyde, phenol, and oil and grease. Sediment samples will also be analyzed for acid volatile sulfide/ simultaneously-extracted metals (AVS/SEM), grain size analysis, in-situ moisture, and consolidation testing. Twelve water samples will also be analyzed for N15 isotope analysis to determine whether ammonia, if any, is natural (waste) or manufactured (fertilizer). The mid water column depth interval was selected for analysis of the N15 isotope since ammonia close to the water surface can be volatilized or oxidized. Provided that the concentration of ammonia is greater than 0.05 mg/L in the water samples, the N15 isotope analysis will be performed using the nitrogen isotopes in ammonia as describe in Appendix A. However, if the concentration of ammonia is below 0.05 mg/L, the N15 isotope testing will be performed on nitrate as describe in Appendix B. Ammonia has been reported in historical samples. The results will be used to determine if the ammonia is from on-site or off-site sources.

U.S. EPA Comment

- 3.) *Please provide the Method numbers and the locations of the laboratory. In particular, provide SOPs for non-routine methods such as AVS-SEM and N15 isotope. Validated SOPs should be provided for the AVS-SEM and N15 isotope techniques. Table 1 should be revised to include laboratory methods and locations.*



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Response

Please refer to Attachment A - SAP, Table 5.1 for the laboratory methods and Attachment A-SAP, Appendix A and B for SOPs for non-routine methods (N15 isotope and AVS-SEM respectively). Please refer to Attachment A - SAP, Section 5.0 for the location of the laboratories to be utilized.

U.S. EPA Comment

- 4.) *Anticipated reporting levels (RLs) for each method should support proper comparison to target action levels that are relevant to the data collection activity. If sediment data will be used to compare to R5 ESLs, then sufficiently sensitive methods/SOPs should be used for the metals. For instance, CRA may wish to consider use of methods such as 6020 (ICP-MS) and GFAA (graphite furnace atomic absorption).*

Response

Please refer to Attachment A - SAP, Table 5.2 for a summary of the reporting levels for each method and corresponding anticipated target action levels.

U.S. EPA Comment

- 5.) *Ten of the 24 water samples submitted for analysis are proposed to be analyzed for N15 isotope, but no rationale is provided for making a proper selection. Also, how will this data be used, specifically, in terms of reliably establishing isotopic fingerprinting (i.e. decision rules)?*

Response

We are now proposing 12 of the 24 water samples be analyzed for N15 isotope. The N15 Isotope analysis is being conducted to determine whether ammonia, if any, is natural (waste) or manufactured (fertilizer) since ammonia has been reported in historical samples. The mid water column depth interval was selected for analysis of the N15 isotope since ammonia close to the water surface can be volatilized or oxidized.

The average abundance of ^{15}N in air is 0.366%. Fertilizer produced from atmospheric nitrogen has a delta ^{15}N of +/- 3‰ while animal manure delta ^{15}N values are between +10 and +25‰.



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The delta ¹⁵N values obtained from the isotope analysis will be compared to these ranges in order to determine the source of the nitrogen.

U.S. EPA Comment

- 6.) *How will sediment samples be collected and preserved. How will water samples be preserved*

Response

Please refer to Attachment A – SAP, Section 3.1 for details on the procedure for collecting sediment samples and Table 4.1 for details on preservation of samples.

U.S. EPA Comment

- 7.) *Equipment rinse blanks should also be collected at proper frequencies to support respective, relevant chemical parameters.*

Response

Equipment rinse blanks will be collected as identified in Attachment A – SAP, Section 5.2.1.

U.S. EPA Comment

- 8.) *Other than to generally 'characterize,' or to determine whether water quality remains suitable for 'discharge,' it is unclear from the 6/1/11 proposal specifically how this data will be utilized*

Response

The data will be used to support a NPDES permit application. In addition, depending on the sample results, the data will be used to develop remedial alternatives for surface water and sediment, as necessary.



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- 9.) *Is/are the laboratory(ies) proposed for use NELAC-certified for the proposed analyses? Is CRA planning to determine and document laboratory certification and recent performance evaluation data for key analyses, as proposed in the 6/1/11 proposal.*

Response

TestAmerica will be the primary laboratory supporting the environmental sample analysis for this project utilizing their facilities in North Canton, Ohio (TA-NC) and Pittsburgh, Pennsylvania (TA-PT) for the analysis of PCB, TAL metals, AVS/SEM, TOC, nitrate, ammonia and pH. All of the TestAmerica laboratories being used are NELAC certified. The N15 isotope analysis will be completed by Colorado Plateau Stable Isotope Laboratory (CPSIL) at Northern Arizona University in Flagstaff, Arizona. CPSIL is not NELAC certified. The sediment geophysical characterization will be completed by Inspecsol in Toronto, Ontario.

U.S. EPA Comment

- 10.) *In summary, an abbreviated Quality Assurance Project Plan (QAPP) for this project to at least cover the above points should be prepared.*

Response

See Attachment A for the Sampling and Analysis Plan which includes an abbreviated QAPP.

We appreciate the opportunity to provide our services to you. Please contact our office at (519) 884-0510 if you have any questions.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Michael Tomka, P.E.

JP/ev/3

cc: Grant Trigger/Dave Favero, RACER